2/3 027 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132722

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A THEORETICAL STUDY WAS MADE OF CHANGE IN THE DISTRIBUTION FUNCTION OF ELECTRONS DRIFTING THROUGH THE GEOMAGNETIC FIELD ANOMALY FOR THE MAGNETIC SHELL L EQUALS 1.5. THE COMPUTATIONS WERE MADE FOR ELECTRONS WITH ENERGIES 0.5, 1.0 AND 2.5 MEV. THE PROBLEM WAS SOLVED USING A KINETIC EQUATION IN AN ADIABATIC APPROXIMATION. THE COLLISION INTEGRAL TAKES INTO ACCOUNT ONLY SMALL CHANGES IN THE ELECTRON PITCH ANGLE DURING AN ELEMENTARY EVENT. CHANGES IN ELECTRON ENERGY ARE NOT TAKEN INTO ACCOUNT BECAUSE SIMILAR COMPUTATIONS, MADE EARLIER, REVEALED THE ABSENCE OF SIGNIFICANT ENERGY CHANGES DURING THE TIME OF ELECTRON DRIFT THROUGH THE ANOMALY. THE INITIAL DISTRIBUTION USED IN THE COMPUTATIONS WAS A FUNCTION WITH A WELL EXPRESSED MAXIMUM (HALF WIDTH SIMILAR TO 200 KEV). AS TIME PASSED THE MAXIMUM WAS DISPLACED BY SIMILAR TO 20 KEV TOWARD THE HIGHER ENERGIES. THE COLLISIONS INTEGRAL WAS AVERAGED FOR THE PERIOD OF ELECTRON OSCILLATION ALONG A LINE OF FORCE. FIG. 3A IN THE TEXT SHOWS THE LONGITUDINAL DEPENDENCE OF THE ELECTRON DISTRIBUTION FUNCTION FOR FIXED H SUBMIN EQUALS 100, 200, 300 AND 500 KM FOR THE ENERGIES E EQUALS 0.5, 1.0 AND 2.5 MEV. IT IS SHOWN THAT THE DIFFERENCE IN THE DISTRIBUTION FUNCTION AT THE CENTER OF THE ANOMALY AND OUTSIDE IT IS DEPENDENT ON ELECTRON ENERGY AND THE PARAMETER H SUBMIN OF THE DRIFT TRAJECTORY. THE GREATEST DIFFERENCE IS OBSERVED FOR LOW ENERGIES AND ALTITUDES H SUBMIN.

UNCLASSIFIED

3/3 027 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0132722
ABSTRACT/EXTRACT--FOR EXAMPLE, FOR E EQUALS 0.5 MEV THE DISTRIBUTION FUNCTION OUTSIDE THE ANOMALY EXCEEDS THE DISTRIBUTION FUNCTION AT THE CENTER OF THE ANOMALY BY A FACTOR OF 2.5, 5.5 AND 20 ON TRAJECTORIES H SUBMIN EQUALS 500, 300 AND 200 KM RESPECTIVELY. FOR E EQUALS 2.5 MEV THE DIFFERENCE BECOMES APPRECIABLE (BY A FACTOR OF SIMILAR TO 3) ON THE DRIFT TRAJECTORY H SUBMIN EQUALS 200 KM. THE GREATEST DIFFERENCE IS OBSERVED FOR THE DRIFT TRAJECTORY WITH H SUBMIN EQUALS 100 KM, WHERE THE DISTRIBUTION FUNCTION CHANGES BY AN ORDER OF MAGNITUDE IN THE LONGITUDE RANGE 10-15DEGREES. FIGURE 3B IN THE TEXT SHOWS THE DEPENDENCE OF THE ELECTRON DISTRIBUTION FUNCTION WITH E EQUALS 1 MEV FOR THE SAME DRIFT TRAJECTORIES, BUT IN A DIPOLE FIELD DISPLACED BY 500 KM IN THE EQUATORIAL PLANE. COMPARISON OF FIGURES 3A AND B REVEALS THAT THE MENTIONED CHARACTERISTICS OF THE LONGITUDINAL DEPENDENCE OF THE ELECTRON DISTRIBUTION FUNCTION ARE VALID FOR DIFFERENT ELECTRON DRIFT TRAJECTORIES. FACILITY: NUCLEAR PHYSICS INSTITUTE, MOSCOW STATE UNIVERSITY.

UNCLASSIFIED

USSR

UDC 669.15.018.85

GORCHAKOVA, E. N., and LAIBKAYA, K. A.

"Heat Resistance of Steels with 2.5% Cr, Alloyed With Tungsten, Molybdenum, and Niobium"

Sb. tr. TsNII chern. metallurgii (Collection of Works of Central Scientific Research Institute of Ferrous Metallurgy), 1970, vyp. 77, pp 23-27 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I632 by authors)

Translation: The article gives experimental data on the heat resistance of steels of the ferritic class with 2.5% Cr (12Kh2MFB, 12KhM5FB, 12Kh2MV5FB, 12Kh2MV8FB, and 12Kh2M5V5FB), additionally alloyed with tungsten, molybdenum, niobium, and additions of boron and titanium. It is shown that steels with 8% W and with 5% W and 5% Mo, intended for operation in power plants, possess satisfactory heat resistance at temperatures up to 700°. Alloying of steels with molybdenum to 5% and a decrease in the Nb content reduce the oxidation resistance of the steels. Addition of B (0.005%) and Ti (0.01%) reduces heat resistance slightly. Two illustrations. One table. Bibliography with six titles.

1/1

USSR

UDC 669.15 - 194:621.785.7.001.5

VARLI, K. V., GORCHAKOVA, E. N., LANSKAYA, K. A., RIVLIN, A. M., and SKAKOV, Yu. A., Moscow Institute of Steel and Alloys

"Structural and Phase Changes in Ferrite Steel During Heat Treatment"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 9, 1970, pp 117-121

Abstract: A study was made of structural and phase changes in EP-503 ferrite steel containing 8% W during heat treatment. The tests were conducted 1) after forging with 960-840°C end temperature, with subsequent water and furnace cooling; and 2) after hardening at 1200°C with subsequent water cooling. The temperature interval of the Fe_2W phase precipitation and related changes in hardness, lattice period of solid solution, and electric resistance were determined. Microstructures of the steel after forging, hardening, and tempering under various conditions are presented, and results are given of metallographic analysis of the steel after hardening at 1200°C. The lattice period of a solid solution of forged samples at certain temperatures is smaller than that of hardened samples, owing to the precipitation of Fe_2W phase particles during forging. The variation of particle size and lattice periods of the Fe_2W phase with tempering temperature we determined.

1/1

USSR UDC 669.017.1:669.15-194.57

GORCHAKOVA, E. N., and LANSKAYA, K. A.

"High-Temperature Oxidation Resistance of Ferritic Steels With 2.5% Cr, Alloyed With Tungsten, Molybdenum, and Niobium"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 23-27

Translation: Experimental data are presented on the oxidation resistance of ferritic steels with 2.5% Cr, additionally alloyed with tungsten, molybdenum, niobium and additives of boron and titanium.

It is demonstrated that EP503 steel with 8% W and EP504 steel with 5% W and 5% Mo, designed for operation in power installations, have satisfactory high-temperature oxidation resistance at up to 700°C. Alloying of the steel with molybdenum up to 5% and decreasing the content of niobium decrease the oxidation resistance of the steel; the addition of boron and titanium slightly decrease oxidation resistance. 2 figures; 1 table; 6 biblio. refs.

1/1

USSR

GORCHAKOVA, L. I., TKALICH, O. B.

"Study of a Simple Algorithm for Solution of Network Problems with Integer Resources"

Perspektivy Razvitiya i Effektivn. Elektroenergetich. Mashin i Sistem [Prospects for Development and Effectiveness of Electric Power Machines and Systems -- Collection of Works], Leningrad, Nauka Press, 1973, pp 150-159 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V577, by the authors).

Translation: A network problem is stated with integer values of resources and duration of operations. The simplest approximate method is studied for solution of network problems of this type.

1/1

USSR

UDC 614.449.542(571.17)

BELYANTSEVA, G. I., DOBRYNINA, L. I., and GORCHAKOVSKAYA, N. N., Novokusnetsk Municipal Sanitary Epidemiological Station and Institute of Poliomyelitis and Viral Encephalitides, Academy of Medical Sciences USSR

"Results of Long-Term Efforts to Control the Vector of Tickborne Encephalitis in the Novokuznetsk Rayon of Kemerovo Oblast"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 6, 1971, pp 722-730

Abstract: Novokusnetsk is a large industrial center in Kemerovo Oblast located in southwestern Siberia; 28% of the total area of Novokuznetsk Rayon is covered by forests. The incidence of tickborne encephalitis in this region decreased from 214 cases in 1956 to only 4 in 1967. This was achieved by systematic efforts to exterminate the vector, the tick Ixodes persulcatus, mostly aerial dusting with DDT and lindane. Some 127,000 hectatres (or 21%) of the inhabited area of Novokuznetsk rayon was treated from 1957 to 1968 in order to protect the urban population against ticks (mainly in summer vacation places). DDT was found to be particularly effective in wooded areas visited by persons in connection with their jobs or for recreation both in the year of application and for as long as 11 years thereafter. The acaricide lindane, which remains potent for 1 or 2 years, was used to protect temporary athletic fields, military camps, etc.

Environmental & Ecological Problems

USSR

SHVARTS, S. S. and GORCHAKOVSKIY, P. L.

"Ecology in the USSR: Status, Main Trends, and Outlook"

Moscow, Ekologiya, No 6, 1972, pp 5-12

Abstract: Russian ecology reached a fairly high level of achievement even before the revolution. It had collected many facts, formulated some important theoretical ideas, and made tentative efforts to apply them to practical problems. With the advent of the Soviet regime, floristic and faunistic studies of considerable ecological significance were intensified. Expeditions were gradually replaced by a network of permanent field stations in all parts of the country as the collectors of data and numerous preserves, sanctuaries, and national forests came into being. Two fields of research are now predominant. One is concerned with the ways in which plants and animals use their territory. The other focuses on intrapopulation variability as a major adaptive mechanism of a species. Variational statistics, mathematical modeling, radioisotopes, and other modern techniques are extensively employed. Much of the research now under way is influenced both by potential practical applications and by environmental considerations.

1/1

USSR

UDC 621.378.325

GORCHAROV, V.K., MIN'KO, L.YA., MIKHNOV, S.A., STRIZHNEV, V.S.

"Peculiarities Of The Effect Of Emission Of Rhodamine Laser On Absorbing Materials"

Kvantovaya elektronika, Moscow, No 5, May 71, pp 112-116

Abstract: A study is conducted of the damaging action on absorbent materials of emission generated by a laser based on a standard solution of Rhodamine-6 Zh. Generation excitation was accomplished by two series-connected IFP-2000 lamps located in a magnesium oxide cylindrical illuminator. A battery of IM-50-3 capacitors with a capacitance of 36 microfarad at a voltage of ~ 10 kv was used for energy storage. The duration of the pumping pulse was 120 microsec (at a 0.1 level). An energy output of 12 joule with a generation duration of ~ 55 microsec was assured. The maximum flux density of the emission amounted to $3 \cdot 10^6$ watt/cm^2. As a result of the action a quasistationary ultrasonic plasma jet is formed with a relatively large angle of emergence. In it a stationary shock wave is formed, the configuration of which is determined by the geometry of the jet's emergence and has a dome-shaped form. With the aid of high-speed spectral filming it is established that excitation of the spectrum primarily takes place in the stationary shock wave. A discontinuous

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USSR

GORCHAROV, V. K., et al., Kvantovaya elektronika, Moscow, No 5, May 71, pp 112-116

structure of the plasma jets is displayed, probably resulting from the explosion-formed (volumetric) character of vaporization. The recurrence frequency of the individual microbunches during laser action on lead (or tin-lead solder) amounts to $\sim$ 1 MHz (the flux density of the emission is $\sim 3 \cdot 10^6$ watt/cm^2). The exhaust velocity of the plasma jet was measured. Pressure in the zone of action is evaluated. Some peculiarities of the action on the absorbing material are studied. Received by editors, 20 Apr 71. 2 fig. 18 ref.

2/2

USSR

UDC 632.95

ASEYEVA, I. V., GORCHARUK, L. G., ALTUKHOV, M. D., and SAMOKHVALOV, A. N.

"Herbicidal Activity of the Butyl Ether of 2,4-D on the Chemical Properties of Plants"

Nauch. dokl. Vysch. shkoly. Biol. n. (Scientific Institute for Higher Education in the Biological Sciences), No 2, 1973, pp 87-90 (from Referativnyy Zhurnal -- Khimiya, No 13(II), 1973, Abstract No 13N526)

Translation: The concentration of total nitrogen and free amino acids in twisted reed grasses increased after treatment with the butyl ester of 2,4-D. The amount of different amino acids changed but the sum of the total amino acids in the protein remained constant. Under the influence of the butyl ester of 2,4-D the concentration of chlorophyll in the reed grasses increased but the co centration of mono- and disaccarides decreased. The concentration of cells in the plants did not change.

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USSR

VOLKOVICH, V. L., GORCHINSKIY, A. P.

"Algorithm for Ordering Versions of a Complex Control System Using Additive Criteria"

Kibernet. i Vychisl. Tekhn. Resp. Mezhved. Sb. [Cybernetics and Computer Equipment. Republic Interdepartmental Collection], 1972, No 15, pp 23-27 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V594, by the authors).

Translation: Methods are studied for systems planning: construction of a set of versions of a complex control system, their evaluation according to various criteria, considered in planning, the ordering of these versions and making of a compromise decision.

1/1

USSR

UDC: 621.791.011

GORDAN', G. N., DZYKOVICH, I. Ya., MAKARA, A. M., MOSENDZ, N. A., and SARZHEVSKIY, V. A.

"High-Temperature Chemical Inhomogeneity in the Weld-Affected Zone"

Moscow, Fizika i Khimiya Obrabotki Materialov, no 6, Nov-Dec 70, pp 114-119

Abstract: An analysis is presented of regularities in the development of high-temperature chemical microinhomogeneities on heating specimens of heat-resistant steels. The heating was carried out in welding thermal cycles to temperatures observed in the weld-affected zone of real welds. The steels involved were 30KhGSNA, 42Kh2GSNMA, 28Kh3SNMVFA, and others. The specimens measured 5 x 5 mm. The magnitude of the chemical inhomogeneity formed on high-temperature heating of rolled steels . the inhomogeneity of the weld-affected zone of real welds appear to be comparable to that of a dendritic inhomogeneity which generally develops in the crystallization of welds and ingots of a similar composition. The formation of a chemical inhomogeneity along the grain boundaries on high-temperature heating of steels, and the redistribution and the changes in the shape of the nonmetallic

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USSR

GORDAN', G. N., et al, Fizika i Khimiya Obrabotki Materialov, no 6, Nov-Dec 70, pp 114-119

inclusions have an adverse effect on the properties of the weld-affected area adjoining the weld promoting the generation and propagation of micro cracks.

USSR

UDC 621.892.8

PANOK, K. K., TRET'YAKOV, P. P., ZUSEVA, B. S., GRIGOR'YEV, P. E., KULIKOV, I. N., GLAVATI, O. L., GORDASH, Yu. T., RABINOVICH, I. L.

"New Aviation Oils with Dipole Type Additives"

Neftepererabotka i Neftekhimiya. Resp. Mezhved. sb. [Oil Refining and Petrochemistry, Republic Interdepartmental Collection], No 5, 1971, pp 38-41, (Translated from Referativnyy Zhurnal Aviatsiyonnye i Raketnye Dvigateli, No 12, 1971, Abstract No 12.34.9, from the Resume).

Translation: The results of studies of the physical, chemical and operational properties of a new aviation oil containing a Dipole-type additive by laboratory methods, and the results of 50 hours tests of this oil in a Type EU-82T one-cylinder installation indicate that this oil is significantly superior to Type MS-20 oil without additives, presently used for piston aviation engines, and is equal to and in some respects superior to aeroshell oil W-100, a foreign type. 3 Tables; 3 Biblio. refs.

1/1

USSR

UDC 547.1'118'122;621.892.009.6

GORDASH, YU. T., KHARCHENKO, L. S., RABINOVICH, I. L., BACHINSKIY, T. P., GUPALO, A. P., ZEMLYANSKIY, N. I., KOTOVICH, B. P., and MURAV'YEV, I. V., All-Union Scientific Research and Project and Design Institute of the Petroleum Conversion and Petrochemical Industry, Kiev

"Investigation of Sulfur-Containing Organophosphorus Compounds as Additives to Lubricating Oils"

Moscow, Neftekhimiya, Vol 11, No 1, Jan-Feb 71, pp 135-140

Abstract: The effectiveness of derivatives of thiophosphoric acid as additives to lubricating oil was studied. Fifteen compounds of this type including O,O-dialkyl-S-alkyl dithiophosphates, O-diethylaminoethyl-S,S-dipropyl trithiophosphate, bis(O,O-diethyldithiophosphate)-benzylidene, bis(O-methyl-O-butylthiophosphone)disulfide, O-alkyl-S,S-dialkyl trithiophosphates, and S,S,S-tetraethyl tetrathiophosphate were synthesized for this purpose. The formulas and characteristics of these compounds are listed in a table. The effects of addition of the 15 compounds to oil DS-11 on the thermal oxidation stability of the oil, the corrosion of Pb plates, the over-all index of wear, the critical load of seizing, and the critical load of welding were determined and compared with those of additive DF-11 (Zn butyloctyl-

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USSR

GORDASH, YU. T., et al., Neftekhimiya, Vol 11, No 1, Jan-Feb 71, pp 135-140

dithiophosphate). The results of the tests showed that use of trialkyl tetrathiophosphates, bis(O,O-dialkylthiophosphone)disulfides, and O-dialkyl-aminoalkyl-S,S-dialkyl trithiophosphates as multifunctional additives to lubricating oils would be of advantage. The effects of the CCl_3 group in reducing wear and seizing of friction surfaces were confirmed by the results of tests on dithiophosphates containing an $-SC(=O)CCl_3$ group. The tests with O,O-difurfuryl-S-trichloroacetyl dithiophosphate indicated that this compound would be a good all-around additive for lubricating oils.

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LUBRICATING ADDITIVE FOR WASHING LIQUIDS -U-

AUTHOR-(05)-YAROV, A.N., KHARCHENKO, L.S., KENDIS, M.SH., GORDASH, YU.T., ZHIDOVTSEV, N.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,988

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LUBRICATING OIL, CHEMICAL PATENT, LUBRICANT ADDITIVE, INDUSTRIAL WASTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1804 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130637

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0130637

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A LUBRICATING ADDITIVE FOR WASHING LIQS. IS BASED ON OIL AND FAT INDUSTRY BY PRODUCTS, SUCH AS TAR OILS FROM BLACK COTTONSEED OIL SOAPSTOCK, TECH. FAT, OR THEIR MIXTS. TO IMPROVE THE LUBRICATING PROPERTIES OF THE ADDITIVE IN AN ALK. MEDIUM, THE OIL AND FAT WASTE PRODUCTS ARE TREATED WITH C SUB1-20 ALCS. IN THE PRESENCE OF H SUB2 SO SUB4 AT 65-120DEGREES.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ADDITIVE FOR AN INTERNAL COMBUSTION ENGINE FUEL -U-

AUTHOR-(05)-SANIN, P.I., ARABYAN, S.G., SHER, V.V., KHOLOMONOV, I.A., GORDASH, YU.T.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,457

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--17MAR70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL PATENT, CARBOXYLIC ACID, ESTER, KETONE, ACETYLENE, MINERAL OIL, FUEL ADDITIVE, INTERNAL COMBUSTION ENGINE, ORGANOALUMINUM COMPOUND

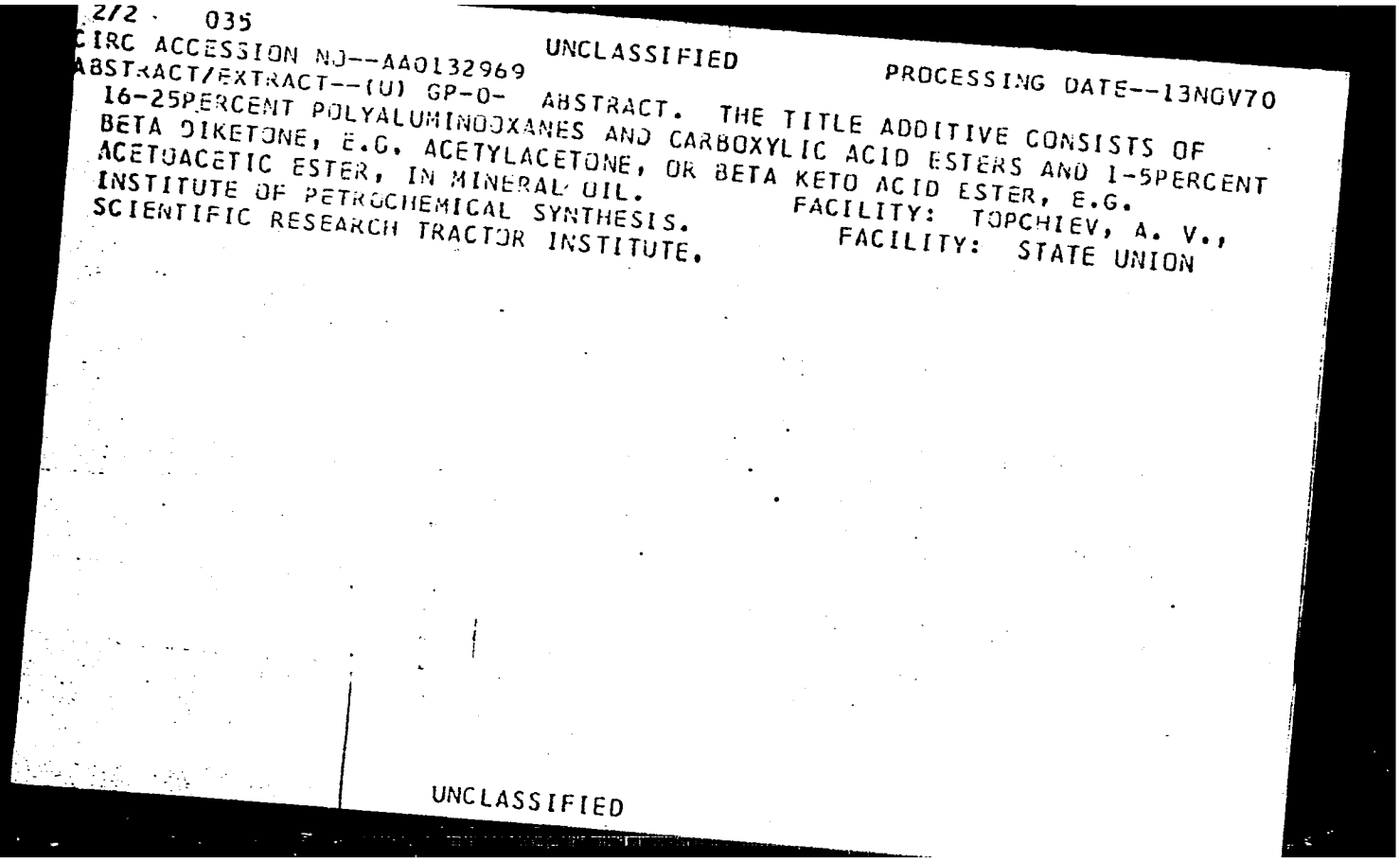
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0879 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132969

UNCLASSIFIED



2/2 035 UNCLASSIFIED
CIRC ACCESSION NO--AA0132969 PROCESSING DATE--13NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE ADDITIVE CONSISTS OF 16-25PERCENT POLYALUMINOOXANES AND CARBOXYLIC ACID ESTERS AND 1-5PERCENT BETA DIKETONE, E.G. ACETYLACETONE, OR BETA KETO ACID ESTER, E.G. ACETOACETIC ESTER, IN MINERAL OIL.
INSTITUTE OF PETROCHEMICAL SYNTHESIS. FACILITY: TOPCHIEV, A. V.,
SCIENTIFIC RESEARCH TRACTOR INSTITUTE. FACILITY: STATE UNION

UNCLASSIFIED

UNCLASSIFIED

272 018

TITLE--MULTIFUNCTIONAL ADDITIVE FOR LUBRICATING OILS -U-

PROCESSING DATE--30OCT70

AUTHOR-(05)-KHARCHENKO, L.S., GORELOV, S.A., GORDASH, YU.T., RABINOVICH, I.L., CHUSHKINA, R.D.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,578

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--LUBRICATING OIL, CHEMICAL PATENT, THIOL, PHOSPHATE ESTER, BENZENE DERIVATIVE, LUBRICANT ADDITIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0084

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0127711

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0127711

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. O, O DIALKYL S BENZOTHIAZOLYL THICPHOSPHATE OR O, O DIALKYL SE BENZOTHIAZOLYL SELENOPHOSPHATE ARE USEFUL AS POLYFUNCTIONAL ADDITIVES IN LUBRICATING OILS.

UNCLASSIFIED

UDC 669.295.31

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USSR

KARYAZIN, I. A., REZNICHENKO, V. A., KHALIMOV, F. B., VORONEYCHIK, A. I., MENYAYLOVA, G. A., KIPRICH, N. A., and GORDEUCHIK, R. A., Moscow

"Oxidation of High-Titanium Slag on Heating in Atmospheres of Air and Water Vapors"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 37-43

Abstract: An experimental study was made of the oxidation of high-titanium slag of various fractional compositions and containing 10-12% FeO on heating up to 1000°C in air and in water vapor atmospheres. The oxidation dependences of titanium slag on the type of the oxidizing medium (oxygen of air, water vapor) and the temperature and size of slag comminution are discussed by reference to diagrams. The oxidation rate of slag in air was found to be considerably higher (twice as high at 700°C) than in water vapors. Under conditions of complete oxidation at temperatures from 300 to 1000°C, the highest oxidation degree is attained at 700°C, yielding in both oxidizing media products of similar chemical composition. On heating up to 700°C, the oxidation process of slag proceeds in two stages; the first is determined by a selective oxidation of titanium of lower valencies (below 400°C), and the second stage begins at temperatures over 500°C and depends on intensive oxidation of bivalent iron. Three figures, one table, ten bibliographic references.

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GORDEYCHEVA, N. V.

Space Physiology

ORIGINAL ARTICLES

SPACE BIOLOGY

SO: JPRS 54396
03 Nov 1971

UDC 612.2-06:612.766.2

EFFECT OF HYPODYNAMIA ON GAS EXCHANGE IN ANIMALS (All-space physiology)

[Article by Ye. A. Kovalenko, V. L. Popkov, E. S. Mailyan, Yu. S. Galushko, N. V. Gordeycheva, Yu. I. Kondrat'yev, N. A. Ilyushko, A. N. Pontapov, [illegible] N. [redacted] and [illegible]; Moscow, Kosmicheskava Biologiya i Meditsina, Russian, Vol 5, No 4, pp 3-8, 1971, submitted for publication 8 December 1969]

Abstract: This paper reports on investigations of the pathogenesis of prolonged hypokinesia (up to 100 days), including total gas exchange, gas homeostasis in tissues, rate of in vivo oxygen consumption in muscles (polarographic method), tissue respiration and oxidative phosphorylation in the skeletal muscles, myocardium, brain and liver, as well as oxidative processes in liver mitochondria. The weight of the animals and individual skeletal muscles of the limbs was also examined. On the 120th day of hypokinesia functional (static and dynamic) tests were performed to determine work capacity and acute hypoxia tolerance of animals. During an exposure to 60-day hypokinesia the dogs showed a decrease in gas exchange which was most clearly pronounced by the 30th day. By the end of the experiment gas exchange increased and immediately returned to a normal level after the experiment. Rats exposed to a longer hypokinesia exhibited no noticeable changes in total gas exchange at early stages of the experiment and a distinct acceleration of gas exchange and regional oxygen consumption in muscles by the 90th-100th day. Changes in the oxidative processes in tissues were found during the 30th-60th day of hypokinesia. The rats also revealed substantial weight losses due to a decrease

USSR UDC: 519.2

GUREVICH, A. D., GORDEYEV, A. A., and SUVOROV, B. V.

"Dispersion Characteristics of Estimates in Incorrect A Priori Statistics"

Tr. Sev.-Zap. zaoch. politekhn. in-ta (Transactions of the Northwest Correspondence Polytechnical Institute--collection of works) No 15, 1971, pp 115-116 (from RZh--Matematika, No 6, 1972, Abstract No 6V146)

Translation: In an ordinary system of a linear regression, the best linear estimates as well as estimates in which the covariation matrix of observations is replaced by another positively defined matrix are written. An obvious inequality for the dispersions of these estimates is obtained. A. Bernshteyn

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UDC: 519.2

USSR

GUREVICH, A. D. GORDEYEV, A. A., SUVOROV, B. V.

"Dispersion Properties of Estimates in the Case of Incorrect a Priori Statistics"

Tr. Sev.-zap. zaoch. politekhn. in-ta (Works of the Northwest Polytechnical Correspondence Institute), 1971, No 15, pp 115-116 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V146)

Translation: The best linear estimates are written out in the conventional linear regression scheme, as well as estimates in which the covariation matrix of observations is replaced by another positive-definite matrix. An obvious inequality is derived for the variances of these estimates. A. Bernshteyn.

1/1

USSR

UDC 547.412+661.718.1

KOZLOV, E. S., GAYDAMAKA, S. N., SOYFER, G. B., GACHEGOV, YU. N., and GORBEYEV, A. D., Institute of Organic Chemistry, Academy of Sciences Ukraine SSR and Perm State University

"Stereochemistry of the Trichloromethyl Derivatives of Pentavalent Phosphorus"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 4, 1972, pp 756-759

Abstract: Nuclear magnetic resonance -- in particular the P-Cl, N^{15}-H, and C-Cl interactions -- was used to determine the geometry of (trichloromethyl)-tetracholorophosphorus (I), bis(tricholoromethyl)trichlorophosphorus (II), and bis(tricholormethyl)amidodicholorophosphorus (III). Spectra were taken at 77°K and 300°K. The distribution and intensity of the peaks indicate a covalent bipyramidal structure, the trichloromethyl group occupying an axial position. The nature of the hybridization of the nitrogen in III was determined from the value of the spin-spin interaction $J(N^{15}-H)$: $\%2S = 0.43J(N^{15}-H)-6$.

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USSR

UDC 541.67

GORDEYEV, A. D., KOZLOV, E. S., AND SOYGER, G. B., Perm' State University Perm' and Institute of Organic Chemistry, Academy of Sciences UkrSSR, Kiev

"The Nuclear Quadrupole Resonance of ^{35}Cl in Dimeric Trichlorophosphazomethane"

Moscow, Zhurnal Strukturnoy Khimii, Vol 14, No 5, Sep-Oct 73, pp 934-935

Abstract: The study of compounds of pentacovalent P by the method of nuclear quadrupole resonance of ^{35}Cl was continued in the instance of $(MeNPCl_3)_2$, the molecular geometry of which is known. It follows from the crystallographic structure of this compound that all axial Cl atoms are crystallographically equivalent, while two nonequivalent positions for the equatorial Cl atoms must exist. One must there expect in the nuclear quadrupole resonance spectrum three lines of equal intensity, two of which (ν^{eq}_{P-Cl}) must differ considerably with respect to the frequency from the third (ν^{ax}_{P-Cl}). The experimental data confirmed this conclusion. The resonance frequencies of the Cl nuclei in the axial and equatorial positions were considerably lower than those for PCl_5, but the difference between them was practically the same.

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USSR

UDC 547.26'18

GORDEYEV, A. D., KYUNTSEL', I. A., GOLIK, G. A., and SHOKOL, V. A.

"Study of the Structure of Phosphazo Phosphonils -- Products of the Reaction of Amido Esters of Alkyl Phosphonic Acids with Phosphorus Pentachloride Using the Nuclear Quadruple Resonance Spectra of ^{35}Cl"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 9-12

Abstract: The study of the nuclear quadruple resonance spectra of ^{35}Cl of phosphazo phosphonils obtained from the amides of alkyl and aryl esters of methyl and chloromethyl phosphonic acids with phosphorus pentachloride was used to establish that they have the structure of alkyldichlorophosphazo and alkylaroxychlorophosphazo dichlorophosphonils and not the trichlorophosphazoalkylchloro and trichlorophosphazo alkylaroxyphosphonils isomeric to them. The $\rightarrow P = N - P(=O)=$ grouping is more stable when the oxygen atom is on the phosphorus atom bound to the more electronegative atoms or groups. The measurements were performed on the pulse spin echo nuclear quadrupole resonance spectrometer equipped with a device for blowing liquid nitrogen vapor through the specimen. The measurement procedure was analogous to that described earlier [A. D. Gordeyev, et al., ZhSKh, No 11, 773, 1970].

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USSR UDC: 621.385:530.145.6:623.621.317.17

GORDEYEV, A. N., LEYVA, A., FERRARI, O. M.

"On Measuring the Correlation Function of Optical Paths in a Turbulent Atmosphere by Using a Twin-Wave Interferometer"

V sb. Radiofiz. i rasprostr. elektromagnitn. voln (Radio Physics and Propagation of Electromagnetic Waves--collection of Works), Moscow, 1970 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D551)

Translation: The authors analyze the statistical nature of propagation of laser beams in a turbulent atmosphere. Theoretical substantiation is given for the method of measuring the phase correlation function by using a modified Jamin twin-beam interferometer with beam splitting by a plane-parallel plate. Expressions are derived for determining the correlation coefficient from the measured contrast of the resultant interference pattern. The advantages of the given method over others are demonstrated. One illustration, bibliography of eight titles. N. S.

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USSR

UDC: 621.385:530.145.6:623

SEMENOV, A. A., ARSEN'YAN, T. I., GAVASHVILI, G. V., GORDEYEV, A. N.

"Statistical Characteristics of Random Fading of Coherent Optical Emission During Propagation in the Troposphere"

V sb. Radiofiz. i rasprostr. elektromagnitn. voln (Radio Physics and Propagation of Electromagnetic Waves--collection of works), Moscow, 1970, pp 77-91 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D568)

Translation: A brief survey is given of important theoretical and experimental works on propagation of coherent optical emission in the troposphere. Experiments are described on measuring the statistical characteristics of coherent emission signals on an actual communications line 4.9 km long as compared with the meteorological parameters which characterize the route (temperature, humidity, wind speed). A laser with $\lambda = 6328$ Å was used. The statistical characteristics were calculated on a digital computer. It is found that there are three types of fading, just as in the case of ultrashort-wave propagation (slow shallow, standard, and a slow component plus rapid fading). Time autocorrelation functions are found as well as the radii of time autocorrelation. Seven illustrations, bibliography of fourteen titles. N. S.

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GORDEYEV A.N.

AA0046414

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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242477 DETERMINING THE RESISTANCE OF POLYMERS TO CORROSIVE MEDIUM, where samples of articles (5) are fixed to clamps (3) and (4). Clamps (3) are mounted on the revolving disc (7), clamps (4) are moving in the groove in the immobile plate (8) which is of sinusoidal or similar form in order to change the distance between the clamps in suitable manner. Chamber (2), housing the clamps and discs, can be filled with corrosive media, and disc (7) is revolved by motor (6) causing the clamps to put oscillating loads on the samples. The measurement data can be obtained by suitably placed strain gauges.

2.2.66 as 1053420/23-5. A.N.GORDEEV et al.RUBBER & LATEX RES.INST. (8.9.69) Bul 15/25.4.69. Class 42k. Int.Cl.G 01 n.

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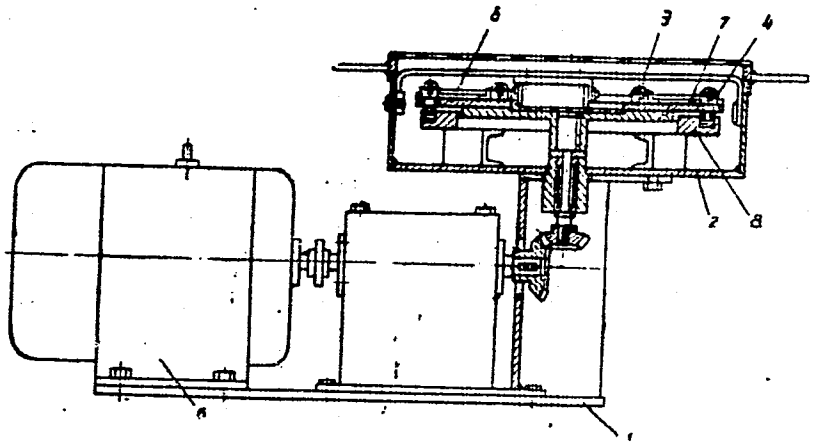

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19781619

AA0046414

AUTHORS: Gordeyev. A. N.; Kozlov. I. I.; Orekhova, N. I.; Reznikovskiy, M. M.; Smirnova, T. N.; Suzdal'nitskaya, Zh. S.; Fedyukin, D. L.; Shmulev, Yu. S.

Nauchno - Issledovatel'skiy Institut Rezinovykh i Lateksnykh Izdeliy

19781620

USSR UDC 669.14.018.8+621.787.4

SPIRIDONOV, V. B., KUZ'MINSKAYA, L. N., GORDEYEV, YU. P.,

"Strengthening of Cr-Ni Steels with Unstable Austenite"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 4, Apr 73, pp 2-9

Abstract: A study was made of the effect of several factors promoting the formation of a high-strength state, namely: the martensite transformation, deformation of martensite and austenite, as well as "inheritance" of the defect structure of deformed austenite with the martensite being formed. Kh18N9 and Kh16N6 steels were used. Deformation of austenite without formation of martensite causes increased strength properties with an intensity of 0.7-0.9 kgf/mm^2 per 1% strain. Maximum yield and tensile strengths achieved for Kh18N9 steel were (for 30% strain) 45 and 85 kgf/mm^2, respectively (for initial values of 25 and 60 kgf/mm^2, respectively). Defects of the deformed austenite are inherited by the martensite formed upon subsequent cooling to low temperatures at degrees of strain up to 8-10%. Above the indicated degrees of strain the determining factor for strengthening is stabilization of the austenite, i.e., less tendency to the formation of martensite. Deformation of the austenite by rolling at small degrees of strain stabilizes the austenite to a large degree. Martensite transformation of Kh16N6 steel (cooling down to -196°C) causes an increase in the amount

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201010004-1"

USSR

SPIRIDONOV, V. B., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 4, Apr 73, pp 2-9

of martensite from 10 to 70% and leads to a growth in the tensile strength by 30 kgf/mm^2 and tensile strength by 55%. Tensile strain to 4-6% and 40% deformation by rolling of Kh16N6 steel with a predominantly martensite structure leads to the formation of an additional amount of martensite, up to 20-25%, and to increased tensile strengths by 10 kgf/mm^2 (for tension) and 40 kgf/mm^2 (by rolling) and yield strengths by 80-90 kgf/mm^2. The same values of strength properties can be achieved at 3-4% deformation by tension and 20% deformation by rolling. The martensite transformation and subsequent cold working of martensite are the determining factors in the formation of a high-strength state in Cr-Ni steels with unstable austenite. Seven figures, two tables, thirteen bibliographic references.

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UDC 621.35.035

USSR

NIGMATULLIN, R. SH., FISH, V. M., GORDEYEVA, L. P.

"Calculation of the Electrochemical Concentration Converters of Nonelectric Variables"

Tr. Kazan. aviats. in-ta (Works of Kazan' Aviation Institute), 1971, vyp. 137, pp 70-73 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L338)

Translation: Relations are presented for calculating the characteristics of the cathode region of an electrochemical sensor of nonelectric variables. The relations were obtained for various configurations of the channel considering the sign-sensitive design of the device.

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USSR

UDC 622.412.1:543.272.08

POLYAKOV, V. S., GORDEYEV, A. T., and KILIN, A. L.

"A GIK-1 Type Instrument for Detecting Hydrogen, Methane, and Carbon Dioxide in a Mine Atmosphere"

Tr. Vost. NII po bezopasn. rabot v gorn. prom-sti (Works of the Eastern Scientific Research Institute of Work Safety in the Mining Industry), Vol 12, 1972, pp 248-253 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 2, 1973, Abstract No 2.32.1037 by V.S.K.)

Translation: The authors present the block diagram, description, and technical characteristics of the GIK-1 instrument, which is used for simultaneous and discrete detection of methane, hydrogen, and carbon dioxide in the atmosphere of mines and shafts. The instrument's operating principle is based on a measurement of the difference between the light refraction indices of the gas sample being investigated and a like amount of pure air, as quantitatively determined by the displacement of the interference bands with respect to their original (zero) positions. The amount of spectrum displacement is proportional to the value of the refractive index of the gas mixture being investigated, which itself changes proportionally to the percentage content of methane, hydrogen, and carbon dioxide in the mixture. The percentage limits for measuring the concentrations of the gases are: methane -- 0-6; H_2 -- 0-6;

USSR

POLYAKOV, V. S., et al., Tr. Vost. NII po bezopasn. rabot v gorn. prom-sti, Vol 12, 1972, pp 248-253

CO_2 -- 0-6; methane + CO_2 -- 0-6; methane + H_2 -- 0-12. Detection error is $\pm$0.3 percent. Experimental models of the GIK-1 were subjected to industrial tests over a period of 2 months in Uralkaliy's mines, during which time more than 700 H_2, CO_2, and CH_4 detection tests were carried out. The test results were positive, and the GIK-1 is recommended for industrial use. An experimental group of 25 of these instruments must now be produced for the Uralkaliy association. (2 illustrations; 1 table)

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USSR

UDC: 621.372.061

GORDEYEV, B. K.

"Equivalent Circuits of Series and Parallel Hookups of MDS Transistors"

Kiev, Radioelektronika, Vol 15, No 7, Jul 72, pp 906-910

Abstract: A method is proposed for constructing equivalent circuits for parallel and series hookups of MDS transistors in logic circuits. This method reduces the calculation of such systems to the calculation of the isolated transistors.

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GORDEYEV, B.K. Microelectronics

JPRS 57333

25 October 1972

MICROELECTRONICS

Excerpts from Russian-language book edited by F. V. Lukin; Mikroelektronika, No 5, 1972, Sovetskoye Radio Publishing House, Moscow, UDC 621.382:621.396.6-181.5.

CONTENTS

This article examines the basic physical effects [illegible] rates in MOS transistors during [illegible] of these effects are described on the [illegible] terms of the MOS transistor. [illegible] tion of the volt-ampere characteristics [illegible] The relationship of the integrated circuits on [illegible] polar and MOS transistor, is discussed.

The article contains 5 figures, 1 table, and 14 bibliographic references.

UDC 621.382.6-183.2

A Method of Computing Major Integrated Circuits on MOS Transistors With Supplementing Types of Conductivity, [illegible] and Gorbunov, [illegible] in the Collection Mikroelektronika, [illegible] by F.V. Lukin, No 5, p 79, Sovetskoye Radio Publishing House, 1972.

The article concerns the computation and optimization of major integrated circuits on supplementing MOP transistors. Optimization criteria for major integrated circuits are suggested.

It is shown that the problem of computing major integrated circuits can be reduced to determining the minimum of the linear function of reducible (determined) parameters of the major integrated circuit in the region of the determination, whose boundaries are nonlinear and have a statistical scatter. The algorithms developed for solving this problem by computation on a computer are cited.

The article contains 11 figures and 11 bibliographic references.

UDC 621.382.8

The Influence of Geometric Dimensions of Active Components on Speed of Response of Micropower Transistor-Transistor Logic of Integrated Circuits, [illegible] and Lubashevskiy, K.V. In the Collection Mikroelektronika, [illegible] edited by [illegible], No 5, p 98, Sovetskoye Radio Publishing House, 1972.

On the basis of experimental data and from the geometric dimensions of transistor structures a computation is given of the capacitances per unit of area of the end and side surfaces of three transistor contacts. It is shown that the speed of response of the micropower TTL of the integrated circuits to a significant degree is determined by

USSR

GORDEYEV, V. I.

"Functional Systems of Integrated Operative Memory Circuits Using Auxiliary MOS Transistors"

Moscow, Mikroelektronika, no. 1, 1971, pp 117-128

Abstract: The principles of the design of memory elements and decoder integrated circuits with auxiliary MOS transistors are considered. Such memory devices can be divided into three classes: circuits with controlled feedback, circuits with control over one input, and circuits with control over both inputs. Schematics of each of these three classifications are presented and described. Also discussed are the construction of memory devices with two-coordinate selection, and schematics for the control of information recording and computation in these memory devices. Comparison of the various types of memory elements analyzed shows that the circuit with two-input control using p-channel transistors occupies the least crystal area for a minimum number of control lines and for equal rapidity of action, and thus such a cell is best for integrated memory circuit construction. It is found also that, for the realization of two-coordinate choice, the use of series-connected two-input recording and circuit circuits is best.
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USSR UDC 542.65(546.791.64546.723+546.831+546.714+546.46)

NOVIKOV, A. I., and GORDEYEV, L. N.

"Co-Precipitation of Uranium (VI) With the Hydrated Oxides of Iron (III), Zirconium, Manganese (IV) and Magnesium"

Leningrad, Radiokhimiya, Vol 14, No 1, 1972, pp 14-20

Abstract: A significant influence is exerted by pH and the valence state of uranium during its coprecipitation with the title oxides. During the reaction of uranyl nitrate with alkali hydroxide solutions the precipitates contained the following compounds: $UO_2(OH)NO_3$ (pH=2.5-3.0), $UO_2(NO_3)_2 \cdot 3UO_2(OH)_2$ (pH=3.5-4), $UO_2(OH)_2$ (pH=4-5), $Me_2U_7O_{22}$ (pH=6-6.5), $Me_2U_4O_{13}$ (pH=7-9), $Me_2U_2O_7$ (pH=9-11), Me_2UO_4 (pH=12), where Me is an alkali metal. The uranyl ion forms many complexes whose stabilities are generally in the following order: $CO_3^{2-} \gg OO^{2-} \gg OH^- > F^- > CH_3COO^- \gg C_2O_4^{2-} > SO_4^{2-} > Cl^- \gg NO_3^-$, and so on. The general experimental conditions were 0.05 to 1 mg U (VI) in solutions containing hydrogen peroxide and/or one or more of the following compounds-ammonium nitrate, sulfate, and bicarbonate; sodium perchlorate, at pH values of 1 to 12. The blank for the partition of U between the solution and the precipitate was

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USSR

NOVIKOV, A. I., and GORDEYEV, L. N., Radiokhimiya, Vol 14, No 1, 1972, pp 14-20

run photometrically with the reagent arsenazo III [a complexing agent]. The mother liquor from centrifuging was adjusted to pH 2.9 before analysis and special procedures were used for pH > 10. A glass electrode pH meter was used. Solution and precipitate remained in contact about 30 minutes. The ratio of coprecipitation as a function of pH is plotted for a variety of solutions. Three results were observed: (1) The coprecipitation and sorption were initiated in the range of hydrolysis of the uranyl ions, increased in proportion to their polymerization, and decreased during the formation of the coordination-saturated ions $UO_2(CO_3)_3^{4-}$ and the anion UO_4^{2-}. (2) The concentration of U(VI) by the precipitate with hydrated oxides (H. O.) in an solution of NH_4NO_3 takes place in the H. O. of Fe at pH 6-8.5; in Zr at pH 5.5-7.0; and in $Mn^{(IV)}$ at pH 3-8. The U was concentrated in the coprecipitate containing the H.O. when sulfate and carbonate ions were present; and in the solutions when the aqueous phase contained hydrogen peroxide. (3) The separation of U from its carriers in the presence of carbonates occurred at pH > 7.5 for the H.O. of Fe and pH > 9 for H. O. of Mn(IV); for solutions containing hydrogen peroxide a pH > 13.5 was required for its separation from the H. O. of Fe and Mg.

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USSR UDC 542.65 (546.791.6 + 546.723 + 546.831 + 546.714 + 546.46)

NOVIKOV, A. I., and GORDEYEV, L. N.

"Co-Precipitation of Uranium (VI) With the Hydrated Oxides of Iron (III), Zirconium, Manganese (IV) and Magnesium"

Leningrad, Radiokhimiya, Vol 14, No 1, 1972, pp 14-20

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USSR

NOVIKOV, A. I., and GORDEYEV, L. N., Radiokhimiya, Vol 14, No 1, 1972, pp 14-20

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UDC 546.621'21:537.226.1/.2

USSR

MIKHEYEV, V. N., BROVIKOV, V. N., and GORDEYEV, S. YA.

"Influence of the Addition of Na_2O on the Dielectric Properties of Aluminum Oxide"

Moscow, Neorganicheskiye Materialy, Vol 7, No 4, Apr 71, pp 703-704.

Abstract: Aluminum oxide was produced from oxide hydrate of various purities, and various quantities of caustic soda were added. The dielectric losses of aluminum oxide were found to increase in proportion to the content of the alkali metal. This simple dependence allows the concentration of alkali metals in alundum to be determined from the value of the dielectric loss angle tangent.

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USSR

UDC: 621.396.621

DUBROVSKIY, V. A., GORDEYEV, V. A., Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"Evaluating the Reliability of Diversity Reception on Antennas of Different Polarization"

Moscow, Radiotekhnika, Vol 27, No 8, Aug 72, pp 98-100

Abstract: The paper presents the results of experimental studies of the reliability of spaced short-wave reception on obliquely polarized antennas. It is shown that the reliability of diversity reception of this type is identical to that of the presently used method of space diversity reception.

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USSR UDC: 621.396.679.46

GORDEYEV, V. A., NAGORNOV, A. I., VASIL'YEV, V. P., STRYGIN, Yu. F.

"A New Ferrite Commutator"

Moscow, Radiotekhnika, Vol 27, No 7, Jul 72, pp 97-100

Abstract: The paper gives the principle of operation and design of a commutator which utilizes a ferrite with induced unidirectional anisotropy. The results of an experimental check of a pilot model of the proposed commutator are presented, and it is shown that the suggested treatment of the ferrite gives a waveguide commutator which is simple and reliable and can be extensively used as a microwave switch and modulator. Pulse-chain carriers can be modulated with respect to position, amplitude or duration (PTM, PAM and PDM). The advantages of small size and weight make the device attractive for use in navigational and radar equipment on aircraft and space vehicles, as well as in measurement technology.

USSR

UDC 621.372.832.43

NAGORNOV, A. I., VASIL'YEV, V. P., GORDEYEV, V. A., STRYGIN, Yu. F.

"A Miniature Magnetless Ferrite Diode Waveguide"

V sb. Radioelektron. v nar. kh-ve SSSR (Radio Electronics in the Soviet National Economy--collection of works), Kuybyshev, 1971, pp 371-373 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11B189)

Translation: The paper presents the results of an experimental study of a magnetless miniature diode for the cm band based on a cylindrical ferrite with induced unidirectional anisotropy. The diode is based on a rectangular waveguide with an absorber located in a depression in one of its walls. A dielectric plate is placed in front of the absorber to improve matching and tuning of the electrical length. The height of the ferrite cylinder is 80-95 percent of the size of the narrow wall of the saveguide. The operating principle of such a diode is described and the characteristics of a model of the diode are presented. One illustration, bibliography of five titles. A. K.

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USSR UDC 621.317.34

GUSHCHIN, V. V., BELOZEROV, V. G., GORDEYEV, V. A.

"A Method of Measuring the Parameters of Narrow-Band SHF Filters"

V sb. Radioelektron. v nar. kh-ve SSSR (Radio Electronics in the Soviet National Economy--collection of works), Kuybyshev, 1971, pp 374-376 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11A311)

Translation: The authors point out the shortcomings of an automatic measurement installation of the "Astra" type as used in measuring the parameters of narrow-band devices. A new method of measuring the characteristics of narrow-band SHF filters is considered, which is essentially as follows. A microwave signal from a fixed-frequency oscillator and a wobbulator signal from a frequency-response meter are sent to the mixer. As a result of conversion, the signal from the frequency-response meter is moved to the predetermined SHF band and fed to the filter to be studied. The passband of the filter is analyzed by means of the microwave signal taken off at the output of the mixer with deviation in the required frequency range. After amplitude detection, the signal is sent to the vertical deflection amplifier

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USSR

GUSHCHIN, V. V. et al., Radioelektron. v nar. kh-ve SSSR, Kuybyshev, 1971, pp 374-376

of the frequency-response meter and the frequency response of the filter is observed on the screen of the meter. E. L.

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USSR UDC 621.372.85

KOSHKIN, L. I., GORDEYEV, V. A., STRYGIN, YU. F., NAGORNOV, A. I., VASIL'YEV, V. P.

"Small Wave Guide Devices"

Issled. po fiz., metodike fiz. i astron. -- V sb. (Research in Physics and Physics and Astronomy Procedures -- collection of works), Kuybyshev, 1970, pp 43-44 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B177)

Translation: The development of a number of small wave guide devices is reported: a ferrite rectifier weighing 80 grams, a "nonmagnetic" ferrite circulator with unidirectional anisotropy and some ferrite devices with induced anisotropy.

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AA0052384 Gordeyev, V.A. UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

243505 FABRIC HEAT TREATMENT DEVICE comprising nozzle with heating elements and perforated tube inside it to supply the treatment agent. The heating elements are placed between the outlet aperture of the nozzle and the perforated tube. This improves the quality of the fabric. The device consists of metal body 1 with slit nozzle 2. It is covered in insulation 3. Within is distributor tube 4 with apertures getting larger towards the middle. In the nozzle part, divided by ribs 5, is heating element 6. The tube is connected to air pressure hoses 7, with cocks 8. The body is held by two clips pivoted to brackets. Handle 11 may be set in two positions - with the slit of nozzle 12 close to fabric 13 (working position) and away from it (non-working position). The body is fixed in the working position by bolts and

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AA0052384

Gordeyev, V. A.; Shirokov, D. V.; Nayda, M. A.; Sechin, N. A.
Leningradskiy Institut Tekstil'noy i Logkoy Prom-yshlennosti im. S. M. Kirova

fabric movement upwards is limited by a pressure plate. The air output temperature is measured by thermo-couples 16 and maintained by a thermal generator. Cold air from the compressor enters the distributor tube and the air chamber is mixed, passes through the electric heater and meets the surface of the fabric at identical parameters all along the nozzle slit. 13.1.67. as 1125940/28-12. GORDEEV, V.A. et al. Kirov Leningrad Textiles and Light Industry Inst. (22.9.69.) Bul.16/5.5.69. Class 86a. 8b. Int.Cl. D02h, D06c.

19820979

1/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--HYPOTHALAMUS HYPOPHYSIS ADRENAL SYSTEMS IN BURN SHOCK. LITERATURE SURVEY -U-
AUTHOR-(02)-MUZYKANT, L.I., GORDEYEV, V.F.

COUNTRY OF INFO--USSR

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CONTROL MARKING--NO RESTRICTIONS

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2/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139909

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN RECENT YEARS A NEUROGENIC THEORY OF SHOCK IN BURN CASES, WHICH REGARDS BURNS AS INVOLVING A COMPLEX NEURODYSTROPHIC PROCESS INITIATED BY OVERACTIVITY OF THE NERVOUS SYSTEM, HAS RECEIVED MUCH ATTENTION. THE DEVELOPMENT OF BURN SHOCK IS ACCOMPANIED BY BIPHASIC CHANGES IN THE CNS CHARACTERIZED AS A 1ST STAGE OF EXCITATION (ERECTILE PHASE) AND A SUBSEQUENT INHIBITION (TORPID PHASE) STAGE OF THE NERVOUS SYSTEM. THE CHANGES IN THE NERVOUS SYSTEM ARE HIGHLY STRESSFUL FOR THE ORGANISM AND INVOLVE AN ADAPTIVE REACTION ON THE PART OF THE ORGANISM ON THE BASIS OF THE HYPOPHYSIS ADRENAL CORTEX SYSTEM. HISTOLOGICAL STUDIES CONDUCTED ON PATIENTS DYING IN A STATE OF BURN SHOCK REVEALED DYSTROPHIC CHANGES IN THE HYPOTHALAMUS AND INCREASED NEUROSECRETORY ADTIVITY ON THE PART OF THE SUPRAOPTIC AND THE PARAVENTRICULAR NUCLEI. ALTHOUGH IT IS AS YET UNDECIDED WHICH CELLS OF THE ANTERIOR PITUITARY ARE RESPONSIBLE FOR ACTH SECRETION, EXPERIMENTS CONDUCTED WITH RATS SUBJECTED TO THERMAL SHOCK HAVE SHOWN THAT THE LEVELS OF ACTH IN THE PITUITARY OF SUCH ANIMALS ARE ELEVATED. THE ROLE OF ACTH IN THE STIMULATION OF THE ADRENAL CORTEX IS WELL KNOWN, AS IS THE POSITIVE ACTIVITY OF THE LATTER IN STRESSFUL SITUATIONS. EXPERIMENTALLY, BOTH THE GLUCOCORTICOIDS AND ACTH ARE USEFUL IN THE TREATMENT OF BURNS: CLINICAL RESULTS OF SUCH THERAPY ARE CONTROVERSIAL.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201010004-1"

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--MORPHOLOGICAL CHANGES OF THE ADRENALS IN EXPERIMENTAL BURNS -U-

AUTHOR-(04)-MUZYKANT, L.I., KEROVA, A.N., GORDEYEV, V.F., KUTSIDI, YE.V.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49, NR 6, PP 113-116
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THERMAL BURN, RABBIT, ADRENAL CORTEX, HYPERPLASIA, URINE, CORTICOSTEROID, EXCRETION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0575 STEP NO--UR/0219/70/049/006/0113/0116

CIRC ACCESSION NO--AP0131198

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131198

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN SEVERE BURN CAUSING IN RABBITS A STATE OF SHOCK DURING THE FIRST 24 HOURS NO CHANGES IN THE STRUCTURE OF THE ADRENALS WERE OBSERVED. 48-72 HOURS AFTER THE INFLICTION OF BURN THERE WERE FOUND HYPERPLASTIC PROCESSES IN THE ADRENAL CORTEX, THIS APPARENTLY TESTIFYING TO ITS INCREASED FUNCTION. THE AUTHORS REVEALED A REDUCED URINARY CONTENT OF 17-OXYCORTICOSTEROIDS ON THE FIRST DAY AND IN THE INSTANCE OF ANURIA, ON THE SECOND-THIRD DAY AFTER THE INFLICTION OF BURN. ON THE SECOND DAY, AND IN ANURIA, ON THE THIRD FORUTH DAY AFTER BURN, THE LEVEL OF 17-OXYCORTICOSTEROIDS REVERTED TO THE NORMAL VALUE.

FACILITY: A. V. VISHNEVSKIY INSTITUTE OF SURGERY OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

UNCLASSIFIED

USSR

BESEKERSKIY, V. A. et al., Upr. dvizhushchimisya ob"yektami. Tr. IV Vses. soveshch. po avtomat. upr. Tbilisi, 1968--sbornik, 1972, pp 87-98

vantageous than in a single-rotor precessing orbit. The difference in the interference spectra at the output of orbital coordinate systems plotters constructed on the basis of using single-rotor and two-rotor precessing orbits enables realization of further effective combination of the two. Bibliography of five titles. Résumé.

2/2

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--TRIPLET TRIPLET ANNIHILATION IN GLASSY SOLUTIONS OF TOLUENE AT 77DEGREESK -U-

AUTHOR-(04)-BATEKHA, I.G., ALFIMOV, M.V., GORDEYEV, V.I., SHEKK, YU.B.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 675-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--TOLUENE, LUMINESCENCE SPECTRUM, NAPHTHALENE, LIGHT EXCITATION, PHOSPHORESCENCE, FLUORESCENCE, OCTENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1624 STEP NO--UR/0048/70/034/003/0675/0677

CIRC ACCESSION NO--AP0125246

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SENSITIZED LUMINESCENCE SPECTRUM OF A FROZEN SOLN. OF NAPHTHALENE,D SUBS (I) IN PHME UNDER EXCITATION OF DIFFERENT INTENSITIES AT 254 NM WAS MEASURED. A 100 FOLD INCREASE IN THE PHME EXCITING LIGHT INTENSITY RESULTED IN A SIGNIFICANT SUPPRESSION OF THE PHOSPHORESCENCE COMPONENT OF THE SPECTRUM OF I. THE TIME DEVELOPMENT OF THE PHOSPHORESCENCE AND FLUORESCENCE ON SWITCHING ON AND OFF A POTENT EXCITING LIGHT SOURCE (10 PRIME14 PHOTONS CM PRIME NEGATIVE2 SEC PRIME NEGATIVE1) WAS SHOWN AND, BESIDES THE COMMON SHORT TIME FLUORESCENCE, AN ADDNL. DELAYED LONG TIME COMPONENT OF THE RADIATION WAS OBSD. THE DELAYED FLUORESCENCE FADED OUT IN 3 TIMES 10 PRIME NEGATIVE4 SEC AND ITS INTENSITY WAS PROPORTIONAL TO THE EXCITING LIGHT INTENSITY MULTIPLIED BY THE CONCN. OF THE TRIPLET MOLS. OF I. THE DELAYED FLUORESCENCE WAS ASCRIBED TO AN ANNIHILATION INTERACTION OF THE TRIPLET EXCITATIONS OF PHME BY THE TRIPLET MOLS. OF I. ITS TIME DEPENDENCE WAS DETD. BY THE RATE OF ACCUMULATION OF THE TRIPLET MOLS. OF I AND BY THE LIFETIME OF THE PHME TRIPLET EXCITATIONS. THEORETICAL CONSIDERATIONS WERE VERIFIED EXPTL. BY USING THE SELECTIVE COMPETITIVE INTERACTION OF THE PHME TRIPLET EXCITATIONS WITH 1,OCTENE.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--THE FORMATION OF UNIFORM DOSE FIELDS OF HIGH ENERGY BREMSSTRAHLUNG BY MEANS OF EQUILIZING TARGETS -U-

AUTHOR-(04)-KOVALEV, V.P., KHARIN, V.P., GORDEYEV, V.V., FILIPENOK, S.P.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 5, PP 49-54

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BREMSSTRAHLUNG, NEUTRON RADIATION, RADIOTHERAPY, ANGULAR DISTRIBUTION, ALUMINUM, FILTRATION, COPPER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0275 STEP NO--UR/0241/70/015/005/0049/0054

CIRC ACCESSION NO--AP0120964

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120964

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF EXPERIMENTAL STUDIES OF ANGULAR DISTRIBUTIONS OF BREMSSTRAHLUNG AND NEUTRON RADIATION FOR TARGETS FROM COPPER WHICH WAS SELECTED AS A "MODEL" MATERIAL ARE DEPICTED. IN ALTERATION OF THE FORM OF THE TARGET THERE IS SEEN A DISTINCT EFFECT OF "EQUILIZATION" OF THE FIELD OF BREMSSTRAHLUNG. THE PAPER CARRIES THE RESULTS OF EXPERIMENTAL VERIFICATION OF THE INFLUENCE OF THE FACTOR OF ACCUMULATION ON THE DOSE VALUE FOR A COMBINATION OF COPPER TARGET AND ALUMINUM FILTER. THE EXPERIMENTAL RESULTS OF MEASUREMENT OF ANGULAR DISTRIBUTIONS OF NEUTRONS ARE IN ACCORDANCE WITH THE THEORY OF PHOTONEUTRON REACTIONS. THE EFFECT OF THE FORM OF THE TARGET ON THE ANGULAR DISTRIBUTION OF NEUTRONS IS DEMONSTRATED.

FACILITY: INSTITUT MEDITSINSKOY RADIOLOGII AMN SSSR.

UNCLASSIFIED

USSR

GORDEYEV, V. YE., MATVEYEV, YU. S., and TROSHIN, YA. K., Institute of Chemical Physics, Acad. Sc. USSR, Moscow

"Explosion of Nitroglycerine in Thin Walled Tubes"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 5, Dec 70, pp 1143-1146

Abstract: Investigation was carried out on low velocity detonation [lvd] of liquid explosives to find out whether the so-called cavitational or spin hypothesis on the mechanism of lvd spreading is valid. Nitroglycerine was used in the experiments, the detonations being performed in thin walled plastic tubes and monitored with high velocity photography. Experimental data obtained support unequivocally the cavitational mechanism for the formation of new explosion foci in nitroglycerine during the spreading of lvd. The lvd spreads in thin walled tubes only when the nitroglycerine is sufficiently sensitive to the cavitational initiation of the detonation, the new detonation foci appearing only after a cavitation zone has formed. The appearance of this zone is inevitable since it is caused by stretching tension which always forms in liquids following their compression and weak initiation; this phenomenon does not relate necessarily to the vibration of the vessel walls.

ACC. NR: Ref. Code: UR 0213
AP0036433
PRIMARY SOURCE: Okeanologiya, 1970, Vol 10, Nr 1, pp 76-85

THE QUANTITATIVE DISTRIBUTION OF SUSPENSIONS IN THE DEEP WATER OF THE NORTHERN AND CENTRAL INDIAN OCEAN

Gordeyev, Ye. I.

Suspensation was collected by the membrane ultrafiltration technique from several sections made on the 33rd cruise of the R/V «Vityaz» in 1960. Each sample was filtered through ultrafilters with 0.7 μ pores.

The vertical distribution of suspensions is uneven. The smallest quantities of suspended particles were found in the arid zone of the ocean, particularly, in the Gulf of Aden and the Arabian Sea (less than 0.5 mg/L). The amount of suspensions sharply increases near the mouths of large rivers as well as at the base of the continental slope (1.0 to 2.5 mg/L and more). The distribution of suspensions in the upper layer of the ocean is rather complicated. Suspension concentrations of 0.5 to 1.0 mg/L were found in the deep water of the central Indian Ocean. The distribution of suspensions depends on terrigenous and biogenous supply.

D.A. 12

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REEL/FRAME
19721277

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 015

TITLE--APPARATUS FOR INCLINED PREPARATIVE GEL ELECTROPHORESIS YIELDING FRACTIONS OF THE SUBSTANCE BEING STUDIED IN HIGH CONCENTRATIONS -U-

AUTHOR--GORDEYEV, YU.N.

COUNTRY OF INFO--USSR

SOURCE--LAB DELO 1970, (4), 248-52

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ELECTROPHORESIS, AGAR, BLOOD SERUM, BETA GLOBULIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0428 STEP NO--UR/9099/70/000/004/0248/0252

CIRC ACCESSION NO--AP0132653

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0132653
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. FOR INCLINED PREPARATIVE ELECTROPHORESIS ON AGAR GEL WAS DESCRIBED. BLOOD SERUM (IN VERONAL BUFFER OF IONIC STRENGTH 0.075 AND PH 8.6) WAS SEPD. AT 10 MA-CM PRIME2 AND 10V-CM INTO 4 FRACTIONS DURING 3-4 HR. THE PROTEINS WERE EXTD. FROM THE GEL BY FREEZING OUT AT MINUS 20DEGREES. THE METHOD YIELDED SERUM PROTEIN FRACTIONS IN CONCNS. COMPARABLE WITH THOSE IN TOTAL SERUM. THE APP. ALSO PERMITTED ISOLATION OF THE BETA GLOBULINS. FACILITY: KRYM. MED. INST. SIMFEROPOL, USSR.

UNCLASSIFIED

Acc. Nr: AP0047328 Ref. Code: UR 0300

PRIMARY SOURCE: Ukrayns'kiy Biokhimichniy Zhurnal, 1970, Vol 42, Nr 1, pp 39-43

SPECTROPOLARIMETRIC CHARACTERISTICS OF ALBUMIN AND GLOBULIN WITH THYROID TOXICOSIS

K. F. Selivanova, Yu. N. Gordeev, G. V. Troitsky

Departments of Biochemistry and Hospital Therapeutics, the Crimean Medical Institute, Simferopol

Summary

Conformation changes of albumin and γ-globulin of blood serum were studied in 26 patients with thyroid toxicosis of different degree of gravity and in five healthy persons. Proteins were isolated by the method of the preparative electrophoresis in the agar-agar gel. Homogeneity of proteins was confirmed by paper electrophoresis. Optical rotation was measured by means of a photoelectrical spectropolarimeter. Unusually great variation of a_0 and b_0 was found.

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REEL/FRAME
19790850

AP0047328

The spectropolarimetric investigations of blood proteins in patients with thyroid toxicosis made it possible to observe the conformation changes in albumin and γ-globulin. Parallelism is marked between the degree of disease gravity and changes in protein conformation. The most essential changes occurred in a molecule of γ-globulin.

The found qualtitative changes in proteins may be of definite biological interest from the wiew point of the effect of thyroid gland hormones on biosynthesis of proteins.

2/2

19790851

Pulse Technique

USSR UDC 621.376.56

YEMEL'YANOV, V. V., CORDEYEVA, F. A.

"PCM-FM-Signal Shaping System with a Train Phase of 0 and π"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Thematic Scientific and Technical Collection), No 19, 1971, pp 63-66 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D493)

Translation: A system is described for shaping signals with pulse-code phase manipulation (PCM-FM) having a train phase of 0 and π. The value of the given phase of 0 and π is insured by using an automatic phase control system on the signal and rigid synchronization of the leading edge of the manipulating pulse with the time of passage of the master oscillator voltage in the control grid of the manipulator tube through zero. Synchronization is insured by obtaining the manipulating pulses by means of a shaping circuit from the master oscillator voltage. At the output of the shaping circuit, a train of square pulses is created with a repetition rate equal to the oscillation frequency of the master oscillator. The leading edge of these pulses coincides with the time of passage of the sinusoidal voltage of the master oscillator through zero. In order to eliminate deviation of the train phase from 0 and π as a result of different time of passage of the signal and the manipulating pulses to the manipulator, a system for automatic phase control of the signal is used. There are 3 illustrations.
1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THE STABLE EQUILIBRIUM IN SYSTEM NA, MG, CA PARALLEL TO SO SUB4, HCO SUB3 MINUS H SUB2 O AT 50DEGREESC AND P SUBCO SUB2 SIMILAR TO 1 ATM

AUTHOR-(02)-NIKOLSKAYA, YU.P., GORDEYEVA, G.I.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA, KHIMICHESKIKH NAUK, 1970, NR 2, PP 75-81

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, CHEMISTRY

TOPIC TAGS--CRYSTALLIZATION, MINERAL, SODIUM COMPOUND, MAGNESIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0583 STEP NO--UR/0289/70/000/000/0075/0081

CIRC ACCESSION NO--AP0113474

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSICN NO--AP0113474

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RANGES OF CRYSTALLIZATION OF DOLOMITE IN FIVE COMPONENT SYSTEM NA, MG, CA PARALLEL TO SO SUB4, HCO SUB3 MINUS H SUB2 O AT 50DEGREESC AND P SUBCO SUB2 SIMILAR TO 1 ATM HAVE BEEN INVESTIGATED. THE STABLE EQUILIBRIUM OF THE SYSTEM COULD BE OBTAINED BY USING OF NATURAL DOLOMITE AND MAGNESITE, AS WELL AS BY THEIR SYNTHESIS IN THE SYSTEM. FACILITY: INSTITUT FIZIKO-KHIMICHESKIKH OSNOV PERERABOTKI MINERAL'NOGO SYR'YA SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

AP7053090

UR 0289

PRIMARY SOURCE: Izvestiya Sibirskogo Otdeleniya, AN SSSR, Seriya Khimicheskikh Nauk, Nr 12(162), Nr 5, pp 151-153

G. I. Gordeeva, I. A. Vorsina

IR-INVESTIGATION OF SYNTHETIC CALCIUM AND MAGNESIUM CARBONATES

IR-absorbtion spectra are presented of synthetic calcium and magnesium carbonates, as well as those of dolomite and magnesian calcites. It is possible to identify these compounds by means of IR-spectroscopy.

1/1 1949 1848 18

1/2 019 UNCLASSIFIED PROCESSING DATE--090CT70

TITLE--PRIMARY AMOEBIC MENINGOENCEPHALITIS CAUSED BY FREE LIVING AMOEBAE OF THE GENUS HARTMANNELLA ACANTHAMOEBA AND NAEGLERIA -U-

AUTHOR--GORDEYEVA, L.M.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLENZI, 1970, VOL 39, NR 2, PP 227-237

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AMOEBIC DISEASE, ENCEPHALITIS, SOIL MICROBIOLOGY, EPIDEMIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1436 STEP NO--UR/0358/70/039/002/0227/0237

CIRC ACCESSION NO--AP0109496

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--090CT70

2/2 019

CIRC ACCESSION NO--AP0109496

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REVIEW ANALYSES THE DATA AVAILABLE IN THE GLOBAL LITERATURE CONCERNING THE PROBLEMS OF AETIOLOGY, PATHOGENESIS AND PATHOLOGICAL ANATOMY, CLINICAL PICTURE, DIAGNOSIS, TREATMENT, EPIDEMIOLOGY AND GEOGRAPHICAL DISTRIBUTION OF PRIMARY AMOEBIC MENINGOENCEPHALITIS CAUSED BY FREE LIVING SOIL AMOEBAE OF THE LIMAX GROUP. IN THE SECTION ON TREATMENT DATA ARE PRESENTED WHICH HAD BEEN OBTAINED IN VITRO AND IN VIVO EXPERIMENTS AND IN CLINICS. THE TABLE PRESENTS EPIDEMIOLOGICAL FEATURES OF 45 CASES OF AMOEBIC MENINGOENCEPHALITIS REPORTED IN LITERATURE. THE LIST OF REFERENCES INCLUDES 104 PAPERS. FACILITY: INSTITUT MEDITSINSKOY PARAZITOLOGII I TROPICHESKOY MEDITSINY IM. YE. I. MARTSINOVSKOGO MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSCOW.

UNCLASSIFIED

USSR

GORDEYEVA, N. A.

"The Study of Syntactical Structures by Computer"

Izbr. Tr. Vses. Mezhvuz. Simpoz. po Prikl. Mat. i Kibernet., Gor'kiy, 1967 (Selected Works of All-Union Interuniversity Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967], Moscow, Nauka Press, 1973, pp 365-369 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V767, by the author).

Translation: The problem of multiple-version syntactical analysis on the basis of Ten'yer dependence grammars is studied. The maximum possible number of dependences in one sentence is studied; in the second stage, certain relationships were placed on the ability of words to control and the possibility of words to depend on other words, the rules of matching of words were considered, etc. Syntactical structures were represented using oriented graphs. The number of possible structures produced as a result of the analysis was calculated by means of construction of matrices and calculation of their determinants. The experiments were performed on the BESM-3M computer.

1/1

USSR

UDC 621.316.56

RUBINCHIK, A. M., ZHUKOV, P. V., GORDEYEVA, N. Ye., KOSTYUROVA, T. A.

"Investigation of the AP-1 Automatic Precision Switch"

Tenzometrich. Pribory dlya Issled. Stroit. Konstruktsiy [Tensometric Devices for Investigation of Construction Structures -- Collection of Works], Moscow, Stroyizdat Press, 1971, pp 149-161 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A18 by N. S.).

Translation: This article presents a study of the AP-1 automatic precision switch, designed for successive connection of the arms of half bridges consisting of tensometric sensors to a measuring device. The AP-1 consists of a lamellar drum, current-tapping rings, and contact brushes, the movement of which is controlled by an electromagnetic stepping mechanism. An estimate is given of the random errors in the measuring device-switch system indicated by tests performed on a special test stand. The transient resistances and efficiencies of the plate-contact pairs and the resistances between plates are determined. The results of investigations are evaluated. 9 Figures.

1/1

USSR

UDC 539.4

GORDEYEVA, T. A., ZHEGINA, I. P., VOLODINA, T. A., Moscow

"Application of Fractography to Study the Rupture Kinetics of Light Alloys"

Kiev, Problemy Prochnosti, No 3, March 1971, pp 25-29

Abstract: In this paper the fractographic method was used to study retarded rupture of alloys based on Ti and Al and to establish the relation of the structure of these alloys to the rupture kinetics in the case of single and repeated loading. The results indicate the complex, as a rule, nonmontonic variation of the rupture rate and nature in the process of crack development even when the nature of the external load is kept practically constant. It is demonstrated that in the fatigue fracture zone corresponding to transition from the stage of slow crack development to sharply accelerated crack development, along with the relief characteristic of rupture from the effect of repeated loads, microsections appear regularly for which the mechanism of single rupture is characteristic.

The role of individual structural components in the various stages of rupture turns out to be quite different. For example, in aluminum alloys the primary phase particles essentially have no effect on the rupture process

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002201010004-1"

USSR

GORDEYEVA, T. A., et al., Problemy Prochnosti, No 3, March 1971, pp 25-29

during the period of slow development of fatigue cracks. The widths of the microfatigue strips are studied and compared for VAD-23 and AK4-1 alloys. This index is taken as the characteristic of the microstructure of fatigue fracture. The expediency of using optical and electron photography to study the behavior of materials during crack development and the relation of rupture characteristics to load conditions is demonstrated.

2/2

APO 018595

UR0107 JPRS 49660

USSR

GORDEYEVA, V.

"New Transistors"

Moscow, Radio, No 6, June 69, pp 56-57

Abstract: Two new transistors for use in mass-consumption radiotechnical devices have appeared on the Soviet market, the KT602A-B and the KT605A-B. Both are of silicon, diffusion, high-frequency, medium-power type, and are highly heat-, moisture- and shock-resistant. Complete lists of electrical parameters and operational data, illustrated by graphs and diagrams, are included for both transistors.

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19610129

USSR

UDC 541.183

BERING, B. P., GORDEYEVA, V. A., DUBININ, M. M., YEFIMOVA, L. I., and SERPINSKIY, V. V., Institute of Physical Chemistry, Acad. Sc. USSR

"Development of Concepts on Micropore Volume Filling During Adsorption of Gasses and Vapors by Microporous Adsorbents. 4 Communication. Differential Heats and Adsorption Entropies"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 22-28

Abstract: Equations were developed for differential molar heats and entropies of adsorption based on characteristic equations of the theory of micropore volume filling during adsorption of gasses and vapors on various types of microporous adsorbents. These equations may be used to calculate with sufficient approximation above values for various levels of adsorption or volume filling of the adsorption space from the data obtained from these characteristic equations requiring only minimal experimental information. The conditions necessary for satisfactory reliability have been discussed. Several examples have been reported showing satisfactory relationship between the calculated and experimental values for isosteric heat of adsorption.

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USSR

UDC 621.382

BELOV, ALEKSANDR SERGEYEVICH; GORDEYEVA, VALENTINA IVANOVNA; NEFEDOV, ANATOLIY VLADIMIROVICH

"Interchangeable Native And Foreign Semiconductor Devices"

Vzaimozamenyayemyye otechestvennyye i zarubezhnyye poluprovodnikovyye pribory (cf English above), Moscow, Izd. "Energiya," 1971. 104 pp. ill. 32 k.

Abstract: Information is presented in this handbook concerning native and foreign semiconductor devices, recommendations are made with respect to a selection of approximate analogs, and the nomenclature is cited of semiconductor devices and interchangeable devices of a number of countries. The handbook is intended for a wide circle of readers occupied with electronics.

CONTENTS

USSR

BELOV, ALEKSANDR SERGEYEVICH, et al., Vzaimozamenyayemyye otechestvennyye i zarubezhnyye poluprovodnikovyye pribory, Moscow, Izd. "Energiya," 1971. 104 pp. ill. 32 k.

2/3

USSR

BELOV, ALEKSANDR SERGEYEVICH, et al., Vzaimozamenyayemyye otechestvennyye i zarubezhnyye poluprovodnikovyye pribory, Moscow, Izd. "Energiya," 1971. 104 pp. ill. 32 k.

3/3

USSR

UDC: 519.21

GORDEYKO, O. N.

"On the Problem of Estimating the Amount of Bias in the Modal Value of a Sum of Independent Random Quantities Relative to the Average Value of the Given Sum"

V sb. Materialy V Nauch-tekhn. konferentsii Vses. n.-i. i proyektno--konstrukt. in-ta po osush. mestorozhd. polezn. iskopayemykh, spets. gorn. rabotam, rudnichn. geol. i marksheyd. delu. Ch. 2 (Materials of the Fifth Scientific and Technical Conference of the All-Union Scientific Research, Design and Planning Institute for Draining of Mineral Deposits, Special Mining Jobs, Mining Geology and Underground Surveying. Part 2), Belgorod, 1971, pp 28-40 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V33)

Translation: The author considers the random quantity x with probability density function $p(x)$ and central moments m_1, m_2,.... By means of the series expansion of the function $p(x)$

$$p(x)=\frac{1}{\sqrt{2\pi H''(t)}}\exp\{H(t)-tH'(t)\}\left\{1-\frac{5H''^3-3H^{IV}(t)H''(t)}{24H''^3(t)}+\ldots\right\},$$

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USSR

GORDEYKO, O. N., Materialy V Nauch-tekhn. konferentsii Vses. n.-i. i proyektno-konstrukt. in-ta po osush. mestorozhd. poleznn. iskopayemykh, spets. gorn. rabotam, rudnichn. geol. i marksheyd. delu. Ch. 2, Belgorod, 1971, pp 28-40

where

$$H(t)=\ln\int e^{tx}p(x)\,dx,\quad x=H'(t),$$

it is shown that the difference Δ_n between the modal (most probable) value of the sum of n independent identically distributed quantities with probability density function $p(x)$ and the average value of this sum may be

determined by the formula $\Delta_n=-A_1+A_2\cdot\frac{1}{n}-\ldots$, where

$$A_1=\frac{m_3}{2m_2},\quad A_2=\frac{6m_3^3-10m_4m_3m_2+3m_5m_2^2}{24m_2^4}.$$

V. Ivanov.

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Steels

USSR

UDC 669.018.2:620.17

GELLER, Yu. A., GORDEZIANI, A. G., and KREMNEV, L. S., Moscow Machine Tool Institute

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 7, 1972, pp 131-134

Abstract: A study was made of the strength and viscosity of R18 (high-tungsten), R6M5 and R3M3 (tungsten-molybdenum), R9K9 (cobalt), and R14F4 (high-vanadium) high-cutting steels at temperatures up to 625°C. The results are discussed by reference to diagrams showing that at 20°C the strength of R6M5 steel is 6-10% higher than R18 steel, the strength of R9K5 and R14K4 steels decreases at 525-625°C with the same intensity as that of R6M5 steel, and the viscosity of R6M5 steel is 30-40% higher than that of R18 steel. The increase in strength at higher temperatures is more intensive in tungsten-molybdenum steels with a relatively low quantity of residual carbide phase and less intensive on R18 steel with a high quantity of carbides. The impact ductility increases with rising temperature, depending on the composition of the solid solution; the increase is higher in high-cutting steels alloyed with molybdenum or cobalt. Cobalt steels are recommended for cutting under conditions of developing adhesion wear. Vanadium steels are best used for cutting conditions without extensive heating. Three figures, two bibliographic references.
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USSR

UDC 519.214

GORDIN, M. I., REZNIK, M. Kh.

"Repeated Logarithm Rule for Denominators of Continued Fractions"

Vestn. Leningr. Un-ta, [Herald of Leningrad University], No 13, 1970, pp. 28-33, (Translated from Referativnyy Zhurnal Kibernetika, No. 5, 1971, Abstract No. 5V34 by V. Prelov).

Translation: Suppose $[a_0(t); a_1(t), a_2(t), \ldots]$ is the expansion of a real number t into a continued fraction, while $\frac{p_k(t)}{q_k(t)} = [a_0(t); a_1(t), \ldots, a_k(t)]$ is the convergent of order k of number t. It is known that the asymtotic behavior of the quantities $\ln q_n(t)$, as n approaches infinity is similar to the behavior of sums of independent random quantities. Thus, A. Ya. Khinchin and I. A. Ivargimov have proven correctness for the sequence $\ln q_n(t)$, $t \in (0, 1)$ of the strong law of large numbers and the central limit theorem. In this work, the authors establish the correctness of the repeated logarithm rule for this sequence.

1/1

USSR

UDC: 517.55

GORDIN, V. A., SHMATKOV, A. A.

"Quasi-Holomorphic Mappings Conformal on Complex Lines"

Tr. Mosk. In-ta Elektron. Mashinostr. [Works of Moscow Institute of Electronic Machine Building], No. 5, 1969(1970), pp 66-96, (Translated from Referativnyy Zhurnal Matematika, No. 8, 1970, Abstract #8B181, by I. Bavrin).

Translation: A mapping of the hemisphere

$$(|z_{q_{i-1}+1}|^2+\ldots+|z_{q_i}|^2<1,\ i=1,\ldots,r;\quad q_1+\ldots+q_r=n)$$

onto the hypersphere

$$\sum_{k=1}^{n}|w_k|^2<1$$

which is diffeomorphic and conformal on complex lines is carried out.

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USSR UDC: 317.75(047)

GORDIN, V. L.

"The State of the Art in Oscillographic Technology"

Moscow, Izmeritel'naya Tekhnika, No 9, 1970, pp 59-61

Abstract: The author classifies the 60 some types of oscillographs in current use in the USSR according to: transmission band, measurement accuracy of time and amplitude parameters, and quality of studied signals. The problem associated with the existence of a large number of oscillographs with analogous technical characteristics is discussed and the centralized control responsible for their production criticized. A number of appropriate checkout characteristics are proposed. Requirements for reference equipment are stated and equipment listed which is suitable for checking primary oscillograph characteristics. New trends in specifying oscillograph characteristics are discussed along with test methods. Designs already exist for a standard on the technical requirements of oscillographs based on the stripping of the transfer characteristic along with a standard involving the methodology for checking oscillograph parameters. These designs will be realized only after the serial mastering of a set of developed generators. A check of linear quadripoles with respect to the transfer characteristic insures a more correct evaluation for the transmitting quality of complex form signals. This significantly decreases work time associated with measurement.

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USSR UDC 518.5:681.3.06

ARONOV, V. I., BELYAYKOV, N. Ye., GORDIN, V. M., LANDA, T. I., SHIRGINOVA, A. I.

"System for Automatic Processing of Anomalies in Three Dimensional Potential Fields Fixed in a Plane or Nonhorizontal Surface"

Tr. Vses. n.-i Geologorazved. Neft. in-t [Works of All-Union Scientific Research Institute for Geological Prospecting and Petroleum], No 103, 1971, pp 161-180, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V819 by the author's).

Translation: A description is presented of the algorithm and system of programs entitled "Reduction -- perpendicular" for the BESM-4 computer, designed to solve a broad range of problems in prospecting gravimetry and magnetometry: interpolation of observations from an arbitrary network of points to units in a right network, reduction of anomalies on external planes, filtration of random errors and calculation of various transformants of three dimensional potential fields. The technological characteristics of a system of programs and results of experimental calculations of three dimensional theoretical models are presented.

AA0047093 GORDINSKII A.A. 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

243270 PNEUMATIC INTEGRATOR, for use in pneumatic simulator systems in automatic control gear, was described under No.191237. The present proposal includes a temperature error compensating arrangement. The diagram shows 1, the pneumatic integrator to No.191237 with input channel 2, and a device with variable volume 3, the temperature sensor itself 4 and the differential pair of bellows 5,6. Cavity 6 is connected to the sensor and 5 to the amplifier input. The sensor, in response to the ambient temperature in which it is immersed, provides pressure moving the integral bottom of the bellows pair, so that cavity 5 changes volume at another rate and provides the input with a temperature correction scaled according to the bellows design.

25.1.68 as 1212995/18-24 Add to 191237.A.A.GORDINSKII & N.D.IANIN. COMPLEX AUTOMATION CENTRAL INST.(12.9.69.) Bul 16/5.5.69. Class 42m4. Int.Cl.G 06g.

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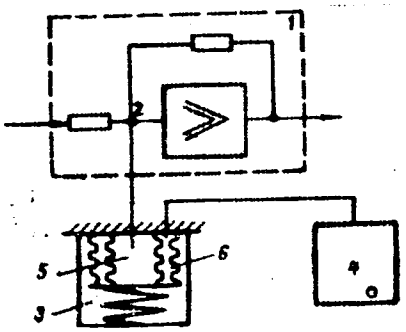

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19790580

USSR UDC: 624.07:534.1

GORDIYANKO, B. A., Khabarovsk

"Impact Bulging of Elastic Systems"

Moscow, Izvestiya AN SSSR, Mekhanika Tverdogo Tela, No 4, Jul/Aug 71, pp 109-115

Abstract: The author discusses the behavior of elastic rods and closed shells of revolution subjected to an axial impact load. The particulars of impact bulging of cylindrical shells are considered as well as the behavior of such a shell when the end faces are brought together at a constant rate and sudden internal pressure is applied. Problems of conical shells under axial impact and impact bulging of spherical shells are analyzed. It was found that the process of transverse wave formation in an elastic system can be broken down into three stages. These stages are defined in terms of the dimensionless quantity t, which is equal to $\frac{c_0 T}{L\sqrt{1-\mu^2}}$ and the time t_* corresponding to a sharp increase in the rate of bulging, where c_0 is the speed of sound in the material, T is physical

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GORDIYANKO, B. A., IAN SSSR: Mekhanika Tverdogo Tela, No 4, 1971, pp 109-115

time, L is the length of a generatrix, and μ is Poisson's ratio. In the first stage ($t \leqslant 1$), one flexural half-wave develops after impact, and in the second stage ($1 < t < t_*$) bending develops comparatively quietly without an increase in the number of half-waves. In the third phase ($t \geqslant t_*$), the shape of the elastic surface is transformed to correspond to the most rapid development of bending for a given rate of loading. Beyond this point, the half-waves become equal in length and amplitude, and there is a transition to nonlinear oscillations of the elastic system.

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USSR

UDC 518 : 517.948

LYUDKEVICH, I. V., Docent, GORDIYCHUK, V. I., Student, ROMANIV, L. YE., Postgraduate Student, L'vov University; SITNIKOVA, T. G., Engineer, L'vov Kinescope Plant

"Numerical Method for Computer-Aided Calculation of Electrostatic Field and Electron Trajectories of Focusing Electron-Optical Systems"

Kiev, Vychislitel'naya i Prikladnaya Matematika, No 17, 1972, pp 51-62

Abstract: The article gives algorithms and describes a method for determining the electrostatic field and electron trajectories for electron-optical systems of complex configuration by the nonlinear parameter method. The Dirichlet problem in an axisymmetric space with slits is reduced by means of the potential of a simple layer to a Fredholm integral equation of the first kind, which is solved by the collocation method. The density is sought in the form of the sum of rational functions with nonlinear parameters. General routines for a Minsk-22 computer are compiled according to the algorithms, and their block diagrams are shown. An example is given of calculating the density, potential,and trajectories of a parallel and a conical beam of electrons.

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USSR UDC: 539.4:624

GORDIYENKO, P. I., SHABLINSKIY, G. E.

"Experimental Research on the Seismic Stability of Light Gravity Dams"

Tr. Vses. proyektno-izyskat. i NII "Gidroproyekt" (Works of the All-Union Institute of Preliminary Study and Design, and of Scientific Research in the Planning of Hydraulic Structures), 1971, sb. 20, pp 136-151 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7V911)

Translation: The paper gives the procedure and results of experimental studies of the seismicity of light gravity dams on scale models. Special modeling materials are described, as well as the peculiarities of modeling a seismic load, measuring equipment used in the experiments. Presented in the results of the research are the dynamic characteristics and the stressed state of the most typical structural elements. Some design measures are proposed on improving the seismic stability of dams. An outline is given of the procedure of prepared studies on a large-scale model with reproduction of seismic loads by means of special explosions. Authors' abstract.

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